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EXAMINER	
LE, NINH V	

ART UNIT	PAPER NUMBER
1791	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/554,197	SAITO ET AL.	
	Examiner	Art Unit	
	Ninh V. Le	1791	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *24 August 2009*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-34* is/are pending in the application.

4a) Of the above claim(s) *13,14 and 18* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-12,15-17 and 19-34* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *24 October 2005* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *8/20/09*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

This is a final Office action in response to a non-final Office action filed on 5/22/09.

Claim Objections

Objection to the claims have been withdrawn due to applicant's amendment.

Claim Rejections - 35 USC § 112

Claim rejection under 35 U.S.C. 112 for claims 2,3,11-14, and 18 have been withdrawn due to applicant's amendment. However, claim rejection under 35 U.S.C. 112 for claims 9,28, and 33 remains as follow.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 9 and 28 recites the limitation "the optical lens" in line 2. There is insufficient antecedent basis for this limitation in the claim.

Claim 33 recites the limitation "the ultrasonic wave application means" in line 2. There is insufficient antecedent basis for this limitation in the claim.

Regarding claim 33, the word "means" is preceded by the word(s) "ultrasonic wave application" in an attempt to use a "means" clause to recite a claim element as a means for performing a specified function. However, since no function is specified by the word(s) preceding "means," it is impossible to determine the equivalents of the element, as required by 35 U.S.C. 112, sixth paragraph. See *Ex parte Klumb*, 159 USPQ 694 (Bd. App. 1967).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 1, 3-10, and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nishimoto US Patent 2002/0036360A1 (hereinafter Nishimoto '360) in view of Sato Atsushi Japanese Publication JP11-262938 (hereinafter Sato '938) (already of record).

Regarding claim 1, Nishimoto '360 discloses a molding method in which a resin material in a molten state is injected from an injection apparatus *(injection apparatus 80 as an injection means for measuring the molten resin...to inject into and fill the injection molding die 50, Figures 1 and 10, Page 4 Paragraph [0068])*, filled into a cavity of a mold *(Figure 10 cavity (Numbering element 3))*, and cooled down to obtain a product in a predetermined shape *(Figures 15-17)*, the method comprising:

preparing a mold having a product cavity to mold the a product, a dummy cavity to mold a dummy product, and a runner by which the product cavity and the dummy cavity are connected *(Figures 2 and 16, runner (Numbering element 49); note: dummy and product cavities are represented by Numbering element 3)*; injecting a resin material in a molten state into the product cavity via an injection apparatus;
injecting the resin material in a molten state into at least part of the dummy cavity *(injection apparatus 80 as an injection means for measuring the molten resin...to inject into and fill the injection molding die 50, Figures 1 and 10, Page 4 Paragraph [0068])*;

However, Nishimoto '360 failed to teach a molding method using ultrasonic vibration and applying ultrasonic vibration to the resin material in the dummy cavity at a predetermined time.

In an analogous art, Sato '938 discloses in regard to claim 1, a molding method using ultrasonic vibration and applying ultrasonic vibration to the resin material in the dummy cavity at a predetermined time *(molding material is supplied…to the cavity 4…At this time, with the high-frequency power from the ultrasonic wave oscillator 10, the **ultrasonic vibrator 8 is vibrated...of the whole metallic mold**, Drawings 1 and 2, Pages 5-6 Paragraph [0024])*.

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to combine the teaching Nishimoto '360 with that of Sato '938 by combining the molding method in which a molten resin is injected from an injection apparatus and filled into a cavity of a mold and cooled to obtain a product as disclosed by Nishimoto '360 with the use of an ultrasonic vibration

to the resin material as disclosed by Sato '938 for the benefit of shortening the molding cycle, eliminating transfer unevenness (Sato '938, Page 9 Paragraph [0043]), and preventing gradual cooling of a resin during molding (Sato '938, Abstract).

Regarding claim 3, Nishimoto '360 and Sato '938 discloses wherein the predetermined time is after start of supply of the resin material to at least part of the dummy cavity and while the resin material in the runner has a predetermined viscosity *(as stated in the aforementioned rejection in claim 1)*.

Note, resin material inherently has a viscosity.

Regarding claim 4, Nishimoto '360 discloses wherein the resin material is filled into the product cavity and compressed *(molten resin…filled into the cavity and volume of the cavity is reduced, Figure 10, Abstract; note: also see Page 7 Paragraph [0107])*.

However, Nishimoto '360 failed to teach the ultrasonic is applied while a compressed state is maintained.

In an analogous art, Sato '938 dislcoses in regard to claim 4, the ultrasonic is applied while a compressed state is maintained *(molding material is supplied…to the cavity 4…At this time, with the high-frequency power from the ultrasonic wave oscillator 10, the* ***ultrasonic vibrator 8 is vibrated...of the whole metallic mold****, Drawings 1 and 2, Pages 5-6 Paragraph [0024]); Note: Drawings 1 and 2 shows the movable die (Numbering element 3) and fixed mold (Numbering element 2) in a compressed state)*.

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to combine the teaching Nishimoto '360

with that of Sato '938 by combining the molding method in which a molten resin is injected from an injection apparatus and filled into the product cavity and compressed as disclosed by Nishimoto '360 with the use of an ultrasonic vibration while in a compressed state as disclosed by Sato '938 for the benefit of shortening the molding cycle, eliminating transfer unevenness (Sato '938, Page 9 Paragraph [0043]), preventing gradual cooling of a resin during molding (Sato '938, Abstract), and maximizing the packing density of the solidified resin material.

Regarding claim 5, Nishimoto '360 and Sato '938 discloses wherein the ultrasonic vibration is applied to an amount of the resin material *(as stated in the aforementioned rejection in claim 1)*.

Nishimoto '360 discloses the claimed invention except for an amount of the resin material flowing into the product cavity from the dummy cavity and air gaps other than the product cavity is in a range of 0.1% by volume to 5% by volume of the resin material filled into the product cavity, however it would have been obvious to one having ordinary skill in the art at the time the invention was made to adjust the resin material flowing into the product cavity from the dummy cavity and air gaps other than the product cavity in a range of 0.1% by volume to 5% by volume of the resin material filled into the product cavity for the intended application, since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. *In re Boesch*, 617 F.2d 272, 205 USPQ 215 (CCPA 1980).

Regarding claim 6, Nishimoto '360 discloses a gate in communication with the product cavity is sealed *(insert 11 descends toward the insert 12…Simultaneously, the*

gate shut pin 111 protrudes into the gate G to gradually close the opening of the gate G, Figures 1 and 12, Page 7 Paragraph [0109]; note: gate shut pin (Numbering element 111) is synchronized with the movement of the insert (Numbering element 11 (Page 8 Paragraph [0117]) and also see abstract).

However, Nishimoto '360 failed to teach wherein the ultrasonic vibration is applied immediately after the filling of the resin material is started.

In an analogous art, Sato '938 discloses in regard to claim 6, wherein the ultrasonic vibration is applied immediately after the filling of the resin material is started *(molding material is supplied…to the cavity 4…At this time, with the high-frequency power from the ultrasonic wave oscillator 10, the* ***ultrasonic vibrator 8 is vibrated...of the whole metallic mold****, Drawings 1 and 2, Pages 5-6 Paragraph [0024])*.

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to combine the teaching Nishimoto '360 with that of Sato '938 by combining the molding method in which a molten resin is injected from an injection apparatus and filled into the product cavity and compressed as disclosed by Nishimoto '360 with the use of an ultrasonic vibration while in a compressed state as disclosed by Sato '938 for the benefit of shortening the molding cycle, eliminating transfer unevenness (Sato '938, Page 9 Paragraph [0043]), and preventing gradual cooling of a resin during molding (Sato '938, Abstract).

Regarding claims 7 and 19, Nishimoto '360 discloses wherein a nozzle of a molding machine to supply the resin material to the mold is closed immediately after the filling of the resin material is completed *(injection nozzle 85 is closed…after completion*

of injecting and filling the molten resin, Figure 10, Page 7 Paragraph [0107]). Wherein the resin is injected from the injection apparatus *(injection apparatus 80 as an injection means for measuring the molten resin...to inject into and fill the injection molding die 50, Figures 1 and 10, Page 4 Paragraph [0068])* into the runner, and from the runner into the dummy mold and the product mold *(Figures 2 and 10, runner (Numbering element 49); note: dummy and product cavities are represented by Numbering element 3)*.

Regarding claims 8-10, Nishimoto '360 discloses wherein the product is an optical lens. Wherein the optical lens is a spectacle lens *(Figure 17)*, and the method further comprises a step of subjecting the obtained spectacle lens to a surface treatment *(lens 102 of the molding 101 is immersed in hardwearing hard coating fluid, Page 7 Paragraph [0115]; note: molding (Numbering element 101) has two spectacle lenses (Numbering element 102) (Page 7 Paragraph [0114]))*.

Claims 2, 22-29, and 33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nishimoto US Patent 2002/0036360A1 (hereinafter Nishimoto '360) in view of Sato Atsushi Japanese Publication JP11-262938 (hereinafter Sato '938) (already of record).

Regarding claim 2, Nishimoto '360 discloses a molding method in which a resin material in a molten state is injected from an injection apparatus *(injection apparatus 80 as an injection means for measuring the molten resin...to inject into and fill the injection molding die 50, Figures 1 and 10, Page 4 Paragraph [0068])*, filled into a

cavity of a mold *(Figure 10 cavity (Numbering element 3))*, and cooled down to mold a product in a predetermined shape *(Figures 15-17)*,, the method comprising:

preparing a mold having a plurality of product cavities to mold products, a runner by which the product cavities are connected to each other, and a resin pit located at a halfway part of the runner *(Figures 2 and 10, runner (Numbering element 49) cavities (Numbering element 3); note: resin pit is represented by the portion below the eject pin (Numbering element 35 and above the point where the sprue (Numbering element 48) and runner (Numbering element 49) intersects as shown in Figure 10)*;

injecting the resin material into the resin pit thereby filling all of the plurality of product cavities *(Figures 10 and 15 and Paragraph [0111])*.

However, Nishimoto '360 failed to teach a molding method using ultrasonic vibration and applying ultrasonic vibration to the resin material in the resin pit at a predetermined time.

In an analogous art, Sato '938 dislcoses in regard to claim 2, a molding method using ultrasonic vibration and applying ultrasonic vibration to the resin material in the resin pit at a predetermined time *(molding material is supplied…to the cavity 4…At this time, with the high-frequency power from the ultrasonic wave oscillator 10, the **ultrasonic vibrator 8 is vibrated...of the whole metallic mold**, Drawing 1 and 2, Pages 5-6 Paragraph [0024])*.

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to combine the teaching Nishimoto '360 with that of Sato '938 by combining the molding method in which a molten resin is

injected from an injection apparatus and filled into a cavity of a mold and cooled to obtain a product as disclosed by Nishimoto '360 with the use of an ultrasonic vibration to the resin material as disclosed by Sato '938 for the benefit of shortening the molding cycle, eliminating transfer unevenness (Sato '938, Page 9 Paragraph [0043]), and preventing gradual cooling of a resin during molding (Sato '938, Abstract).

Regarding claim 22, Nishimoto '360 and Sato '938 discloses wherein the predetermined time is after start of supply of the resin material to at least part of the resin pit and while the resin material in the runner has a predetermined viscosity *(as stated in the aforementioned rejection in claim 2)*.

Note, resin material inherently has a viscosity.

Regarding claim 23, Nishimoto '360 discloses wherein the resin material is filled into the product cavity and compressed *(molten resin…filled into the cavity and volume of the cavity is reduced, Figure 10, Abstract; note: also see Page 7 Paragraph [0107])*.

However, Nishimoto '360 failed to teach the ultrasonic is applied while a compressed state is maintained.

In an analogous art, Sato '938 discloses in regard to claim 23, the ultrasonic is applied while a compressed state is maintained *(molding material is supplied…to the cavity 4…At this time, with the high-frequency power from the ultrasonic wave oscillator 10, the **ultrasonic vibrator 8 is vibrated...of the whole metallic mold**, Drawings 1 and 2, Pages 5-6 Paragraph [0024]); Note: Drawings 1 and 2 shows the movable die (Numbering element 3) and fixed mold (Numbering element 2) in a compressed state)*.

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to combine the teaching Nishimoto '360 with that of Sato '938 by combining the molding method in which a molten resin is injected from an injection apparatus and filled into the product cavity and compressed as disclosed by Nishimoto '360 with the use of an ultrasonic vibration while in a compressed state as disclosed by Sato '938 for the benefit of shortening the molding cycle, eliminating transfer unevenness (Sato '938, Page 9 Paragraph [0043]), preventing gradual cooling of a resin during molding (Sato '938, Abstract), and maximizing the packing density of the solidified resin material.

Regarding claim 24, Nishimoto '360 and Sato '938 discloses wherein the ultrasonic vibration is applied to an amount of the resin material *(as stated in the aforementioned rejection in claim 2)*.

Nishimoto '360 discloses the claimed invention except for an amount of the resin material flowing into the product cavity from the resin pit and air gaps other than the product cavity is in a range of 0.1% by volume to 5% by volume of the resin material filled into the product cavity, however it would have been obvious to one having ordinary skill in the art at the time the invention was made to adjust the resin material flowing into the product cavity from the resin pit and air gaps other than the product cavity is in a range of 0.1% by volume to 5% by volume of the resin material filled into the product cavity for the intended application, since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. *In re Boesch*, 617 F.2d 272, 205 USPQ 215 (CCPA 1980).

Regarding claim 25, Nishimoto '360 discloses a gate in communication with the product cavity is sealed *(insert 11 descends toward the insert 12…Simultaneously, the gate shut pin 111 protrudes into the gate G to gradually close the opening of the gate G, Figures 1 and 12, Page 7 Paragraph [0109]; note: gate shut pin (Numbering element 111) is synchronized with the movement of the insert (Numbering element 11 (Page 8 Paragraph [0117]) and also see abstract).*

However, Nishimoto '360 failed to teach wherein the ultrasonic vibration is applied immediately after the filling of the resin material is started.

In an analogous art, Sato '938 discloses in regard to claim 25, wherein the ultrasonic vibration is applied immediately after the filling of the resin material is started *(molding material is supplied…to the cavity 4…At this time, with the high-frequency power from the ultrasonic wave oscillator 10, the **ultrasonic vibrator 8 is vibrated...of the whole metallic mold**, Drawings 1 and 2, Pages 5-6 Paragraph [0024])*.

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to combine the teaching Nishimoto '360 with that of Sato '938 by combining the molding method in which a molten resin is injected from an injection apparatus and filled into the product cavity and compressed with a gate in communication with the product cavity that is sealed as disclosed by Nishimoto '360 with the use of an ultrasonic vibration that is applied immediately after the filling of the resin material is started as disclosed by Sato '938 for the benefit of shortening the molding cycle, eliminating transfer unevenness (Sato '938, Page 9

Paragraph [0043]), and preventing gradual cooling of a resin during molding (Sato '938, Abstract).

Regarding claim 26, Nishimoto '360 discloses wherein a nozzle of a molding machine to supply the resin material to the mold is closed immediately after the filling of the resin material is completed *(injection nozzle 85 is closed…after completion of injecting and filling the molten resin, Figure 10, Page 7 Paragraph [0107])*.

Regarding claims 27-29, Nishimoto '360 discloses wherein the product is an optical lens. Wherein the optical lens is a spectacle lense *(Figure 17)*, and the method further comprises subjecting the obtained spectacle lens to a surface treatment *(lens 102 of the molding 101 is immersed in hardwearing hard coating fluid, Page 7 Paragraph [0115]; note: molding (Numbering element 101) has two spectacle lenses (Numbering element 102) (Page 7 Paragraph [0114]))*.

Regarding claim 33, Nishimoto '360 failed to teach wherein a vibrator provided in the ultrasonic wave application means is inserted in a through-hole which communicates with the resin pit, and a tip of the vibrator forms a bottom of the resin pit.

In an analogous art, Sato '938 discloses in regard to claim 33, wherein a vibrator *(Drawings 1-2, ultrasonic vibrator (Numbering element 8) vibrating conversion body (Numbering element 7) n-wavelength resonant body (Numbering element 9) and also see Paragraphs [0019] and [0024])* provided in the ultrasonic wave application means *(Drawing 1, ultrasonic oscillator (Numbering element 10))* is inserted in a through-hole *(Drawing 1, part where vibrating conversion body (Numbering element 7)*

is situated) which communicates with the resin pit *(Drawing 1, cavity (Numbering element 4))*, and a tip of the vibrator (*n-wavelength resonant body (Numbering element 9); note: n-wavelength resonant body (Numbering element 9) coincide with the molding position of the cavity (Numbering element 4) and is located inside of the movable die (Numbering element 3))* forms a bottom of the resin pit *(Drawings 1-2, cavity (Numbering element 4)).*

Note, the term(s) "ultrasonic wave application" are used to modify the word "means", thus purporting to conform to 35 USC 112, sixth paragraph. However, 35 USC 112, sixth paragraph, requires that the term(s) specify a function to be performed, thus enabling a determination of the structural equivalent thereof. For example, example such as "latch means" or "means for latching" have functional connotation and are in conformity with the statue. However, in this case, the term(s) have no functional connotations. *Ex parte Klumb,* 159 USPQ 694.

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to combine the teaching Nishimoto '360 with that of Sato '938 by combining the molding method in which a molten resin is injected from an injection apparatus as disclosed by Nishimoto '360 with the use of a vibrator that communicates with the resin pit and a tip of the vibrator that forms a bottom of the resin pit as disclosed by Sato '938 for the benefit of providing ultrasonic vibration to the molding cavity (Numbering element 4) (Sato '938, Page 4 Paragraphs [0019] – [0020]) thereby shortening the molding cycle, eliminating transfer unevenness (Sato

'938, Page 9 Paragraph [0043]), and preventing gradual cooling of a resin during molding (Sato '938, Abstract).

Claims 11,15-17, and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nishimoto US Patent 2002/0036360A1 (hereinafter Nishimoto '360) in view of Sato Atsushi Japanese Publication JP11-262938 (hereinafter Sato '938) (already of record). Examiner wishes to point out to applicant that claims 11,15-17, and 20 are directed towards an apparatus and as such will be examined under such conditions. The material worked upon or the processes of using the apparatus are viewed as recitation of intended use and are given little patentable weight (Please see MPEP 2114 R1-2115 R2 for further details).

Regarding claims 11 and 20 Nishimoto '360 discloses a molding machine in which a resin material is injected from an injection apparatus *(injection apparatus 80 as an injection means for measuring the molten resin...to inject into and fill the injection molding die 50, Figures 1 and 10, Page 4 Paragraph [0068])*, filled into a cavity formed in a mold *(Figures 2 and 10, molding die (Numbering element 50) cavity (Numbering element 3))*, and compressed to mold a product in a predetermined shape, the molding machine comprising:

a mold having a product cavity *(Figures 2 and 10, cavity (Numbering element 3))* for molding a product;

an injection apparatus for injecting a resin material into said mold *(Figure 1, injection apparatus (Numbering element 80) molding die (Numbering element 50))*;

a dummy cavity for molding a dummy product *(Figures 2 and 10, cavity (Numbering element 3))* for molding a product;

a runner connecting the product cavity and the dummy cavity *(Figures 2 and 10, runner (Numbering element 49); note: dummy and product cavities are represented by Numbering element 3))*; A fixed mold and a moveable mold, wherein both the dummy cavity and the product cavity are located in the same one of the fixed mold and the moveable mold *(upper mold (movable mold) 1 and a lower mold (stationary mold) 2, Figure 2, Page 5 Paragraph [0074]; note: dummy and product cavities are represented by Numbering element 3)*.

However, Nishimoto '360 failed to teach ultrasonic wave application means for applying ultrasonic vibration to resin material in the dummy cavity. The ultrasonic wave application means is located in the other of the fixed mold and the moveable mold, such that when the fixed mold and the moveable mold are connected, a portion of the ultrasonic wave application means is able to contact resin the dummy cavity.

In an analogous art, Sato '938 discloses in regard to claims 11 and 20, ultrasonic wave application means *(please see below)* for applying ultrasonic vibration to resin material in the dummy cavity *(Drawing 3, cavity (Numbering element 4)).* The ultrasonic wave application means *(please see below)* is located in the other of the fixed mold and the moveable mold *(Drawing 3, fix mold (Numbering element 2); note: the ultrasonic wave oscillator (Numbering element 10) of drawings 1-2 are the same as in*

drawing 1 (Page 6 Paragraph [0030] and Page 7 Paragraph [0032]), therefore their location with respect to the ultrasonic vibrator are the same as well), such that when the fixed mold and the moveable mold are connected *(Drawing 3, fix mold (Numbering element 2) moveable die (Numbering element 3))*, a portion of the ultrasonic wave application means *(please see below)* is able to contact resin the dummy cavity *(Drawing 3, cavity (Numbering element 4))*.

Examiner noted that applicant **properly invoked means-plus-function** 112th, sixth paragraph in claims 11 and 20 for **ultrasonic wave application means**. Thus, Page 12 Line 20-22 of **applicant's specification identifies** this means as "ultrasonic oscillator (not shown) which applies the ultrasonic vibration to the resin material in the dummy cavity 18". With respect to this limitation, **Sato '938 discloses** "High-frequency power is supplied to the ultrasonic vibrator 82 from the ultrasonic wave oscillator 10" (Drawing 3 cavity (Numbering element 4), Page 7 Paragraph [0033]).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to combine the teaching Nishimoto '360 with that of Sato '938 by combining the molding machine as disclosed by Nishimoto '360 with the use of an ultrasonic oscillator as disclosed by Sato '938 for the benefit of shortening the molding cycle, eliminate transfer unevenness (Sato '938, Page 9 Paragraph [0043]), and prevent gradual cooling of a resin during molding (Sato '938, Abstract).

Regarding claims 15-17, Nishimoto '360 discloses wherein the mold has a sprue in communication with the runner. Wherein a resin pit is located at a midpoint of

the runner (Figures 2 and 10, molding die (Numbering element 50) sprue (Numbering element 48) runner (Numbering element 49) *note: resin pit is represented by the portion below the eject pin (Numbering element 35 and above the point where the sprue (Numbering element 48) and runner (Numbering element 49) intersects as shown in Figure 10)*. Wherein the product is an optical lens *(Figure 17)*.

Claims 12,21,30-32, and 34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nishimoto US Patent 2002/0036360A1 (hereinafter Nishimoto '360) in view of Sato Atsushi Japanese Publication JP11-262938 (hereinafter Sato '938) (already of record). Examiner wishes to point out to applicant that claims 12,21,30-32, and 34 are directed towards an apparatus and as such will be examined under such conditions. The material worked upon or the processes of using the apparatus are viewed as recitation of intended use and are given little patentable weight (Please see MPEP 2114 R1-2115 R2 for further details).

Regarding claim 12, Nishimoto '360 discloses a molding machine in which a resin material is injected from an injection apparatus *(injection apparatus 80 as an injection means for measuring the molten resin...to inject into and fill the injection molding die 50, Figures 1 and 10, Page 4 Paragraph [0068])* into a cavity formed in a mold *(Figures 2 and 10, molding die (Numbering element 50) cavity (Numbering element 3))* and compressed to mold a product in a predetermined shape, the molding machine being comprising:

a mold having a plurality of product cavities *(Figures 2 and 10, cavity (Numbering element 3))* for molding products;

a runner connecting the product cavities to each other *(Figures 2 and 10, runner (Numbering element 49) cavity (Numbering element 3))*;

a resin pit located at a halfway part of the runner *(Figures 2 and 10, runner (Numbering element 49) cavity (Numbering element 3); note: resin pit is represented by the portion below the eject pin (Numbering element 35 and above the point where the sprue (Numbering element 48) and runner (Numbering element 49) intersects as shown in Figure 10)*;

an injection apparatus for injecting a resin material into said resin pit, thereby filling the plurality of product cavities with resin via said runner *(Figures 1 and 10, injection apparatus (Numbering element 80) runner (Numbering element 49); note: resin pit is represented by the portion below the eject pin (Numbering element 35 and above the point where the sprue (Numbering element 48) and runner (Numbering element 49) intersects as shown in Figure 10. Also note that dummy and product cavities are represented by Numbering element 3)*.

However, Nishimoto '360 failed to teach an ultrasonic wave application means for applying ultrasonic vibration to resin material in the resin pit.

In an analogous art, Sato '938 discloses in regard to claim 12, an ultrasonic wave application means for applying ultrasonic vibration to resin material in the resin pit *(Drawing 3 cavity (Numbering element 4).*

Examiner noted that applicant **properly invoked means-plus-function** 112th, sixth paragraph in claim 12 for **ultrasonic wave application means**. Thus, Page 12 Line 20-22 of applicant's specification identifies this means as "ultrasonic oscillator (not shown) which applies the ultrasonic vibration to the resin material in the dummy cavity 18". With respect to this limitation, Sato '938 discloses "High-frequency power is supplied to the ultrasonic vibrator 82 from the ultrasonic wave oscillator 10" (Page 7 Paragraph [0033]).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to combine the teaching Nishimoto '360 with that of Sato '938 by combining the molding machine as disclosed by Nishimoto '360 with the use of an ultrasonic oscillator as disclosed by Sato '938 for the benefit of shortening the molding cycle, eliminating transfer unevenness (Sato '938, Page 9 Paragraph [0043]), and preventing gradual cooling of a resin during molding (Sato '938, Abstract).

Regarding claims 21, Nishimoto '360 discloses wherein a resin-holding capacity of the resin pit relative to each of the product cavities *(Figures 2 and 10, cavity (Numbering element 3); note: resin pit is represented by the portion below the eject pin (Numbering element 35 and above the point where the sprue (Numbering element 48) and runner (Numbering element 49) intersects as shown in Figure 10)* is between 10% and 40%.

Regarding claims 30-32, Nishimoto '360 discloses wherein the mold has a sprue in communication with the runner. Wherein the resin pit is located at a midpoint

on the runner *(Figures 2 and 10, molding die (Numbering element 50) sprue (Numbering element 48) runner (Numbering element 49) note: resin pit is represented by the portion below the eject pin (Numbering element 35 and above the point where the sprue (Numbering element 48) and runner (Numbering element 49) intersects as shown in Figure 10).* Wherein the product is an optical lens *(Figure 17)*.

Regarding claim 34, Nishimoto '360 failed to teach wherein a vibrator provided in the ultrasonic wave application means is inserted in a through-hole which communicates with the resin pit, and a tip of the vibrator forms a bottom of the resin pit.

In an analogous art, Sato '938 discloses in regard to claim 34, wherein a vibrator *(Drawings 1-2, ultrasonic vibrator (Numbering element 8) vibrating conversion body (Numbering element 7) n-wavelength resonant body (Numbering element 9) and also see Paragraphs [0019] and [0024])* provided in the ultrasonic wave application means *(Drawing 1, ultrasonic oscillator (Numbering element 10))* is inserted in a through-hole *(Drawing 1, part where vibrating conversion body (Numbering element 7) is situated)* which communicates with the resin pit *(Drawing 1, cavity (Numbering element 4))*, and a tip of the vibrator (*n-wavelength resonant body (Numbering element 9); note: n-wavelength resonant body (Numbering element 9) coincide with the molding position of the cavity (Numbering element 4) and is located inside of the movable die (Numbering element 3))* forms a bottom of the resin pit *(Drawings 1-2, cavity (Numbering element 4)).*

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to combine the teaching Nishimoto '360

with that of Sato '938 by combining the molding machine as disclosed by Nishimoto '360 with the use of a vibrator that communicates with the resin pit and a tip of the vibrator that forms a bottom of the resin pit as disclosed by Sato '938 for the benefit of providing ultrasonic vibration to the molding cavity (Numbering element 4) (Sato '938, Page 4 Paragraphs [0019] – [0020]) thereby shortening the molding cycle, eliminating transfer unevenness (Sato '938, Page 9 Paragraph [0043]), and preventing gradual cooling of a resin during molding (Sato '938, Abstract).

Response to Argument

Applicant's arguments filed 8/24/09 have been fully considered but they are not persuasive.

Regarding claims 1-2 and 11-12, applicant argued that the rejection under 35 U.S.C. § 103(a) over Nishimoto '360 in view of Sato '938 was improper because Sato '938 does not teach applying ultrasonic vibration to the resin material in a dummy cavity and Nishimoto '360 does not teach using one of spectacle-lens molding cavities as a dummy cavity. Applicant further argued that if a person of ordinary skill in the art combines Nishimoto '360 and Sato '938, he or she would apply ultrasonic vibration to both Nishimoto's cavities. Thus one having ordinary skill in the art would not think of using one of the cavities as a dummy cavity, and applying ultrasonic vibration to the dummy cavity only, for the purpose of causing resin material to flow from the dummy cavity to the product cavity thereby achieving superior molding accuracy and quality and allowing strain to be reduced and transferability to be improved.

The Examiner respectfully disagrees. It is submitted that the use of "comprising" in the preamble allow the body to be open-ended. **The transitional term "comprising", which is synonymous with "including," "containing," or "characterized by," is inclusive or open-ended and does not exclude additional, unrecited elements or method steps. See, e.g., >*Mars Inc. v. H.J. Heinz Co.*, 377 F.3d 1369, 1376, 71 USPQ2d 1837, 1843 (Fed. Cir. 2004).** Thus, the cavity (Numbering element 3) of Nishimoto '360 can be used as a dummy cavity as demonstrated in the above rejection. Sato '938 on the other hand discloses supplying a molding material to a cavity (Numbering element 4) and vibrating the whole metallic mold by the use of an ultrasonic wave oscillator (Numbering element 10) and ultrasonic vibrator (Numbering element 8) as demonstrated in the above rejection as well. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to combine the teaching Nishimoto '360 with that of Sato '938 by combining the molding machine and molding method in which a molten resin is injected from an injection apparatus as disclosed by Nishimoto '360 with the method of applying ultrasonic vibration to the resin material in a cavity as disclose by Sato '938 for the benefit of shortening the molding cycle, eliminating transfer unevenness (Sato '938, Page 9 Paragraph [0043]), and preventing gradual cooling of a resin during molding (Sato '938, Abstract). Thus Sato '938 disclosure of preventing gradual cooling of a resin during molding teaches applicant's advantage of achieving superior molding accuracy and improving transferability. Likewise, Sato '938 disclosure of eliminating transfer unevenness teaches applicant's advantage of achieving quality and allowing strain to be

reduced. Regarding applicant's argument that a person of ordinary skill in the art would apply ultrasonic vibration to both Nishimoto's cavities and not applying ultrasonic vibration to the dummy cavity only, it is submitted that neither Sato '938 nor Nishimoto '360 suggest applying ultrasonic vibration to both Nishimoto's cavities. In fact, Sato '938 discloses applying ultrasonic vibration to a cavity as mentioned previously. Beside, the use of the word "comprising" as stated previously allows for both cavities to be applied with ultrasonic vibration. Thus, in response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., achieving superior molding accuracy and quality, allowing strain to be reduced and transferability to be improved, and applying ultrasonic vibration to the dummy cavity only) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within

TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ninh V. Le whose telephone number is (571)270-3828. The examiner can normally be reached on Monday - Friday 7:30 AM - 5:00 PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Joseph Del Sole can be reached on (571)272-1130. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

NVL

/Joseph S. Del Sole/
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